But besides the general objection to this limitation, which has already been mentioned, the Dalmatian coast can show fiords as characteristic as those of Norway, though glaciers can never have been more than unimportant features on even the highest of the Dinaric Alps (Fig. 2). A glacier which continues to descend a main valley after those in the lateral glens have shrunk and ceased to be tributaries, may have converted the latter into hanging valleys; its ice-stream may have replaced the rugged ends of spurs by smooth facets, but a river also, in similar circumstances, can produce the one and the other, and, in many cases, as Prof. Gregory shows, it can be proved that the valleys occupied by fiords are pre-glacial.

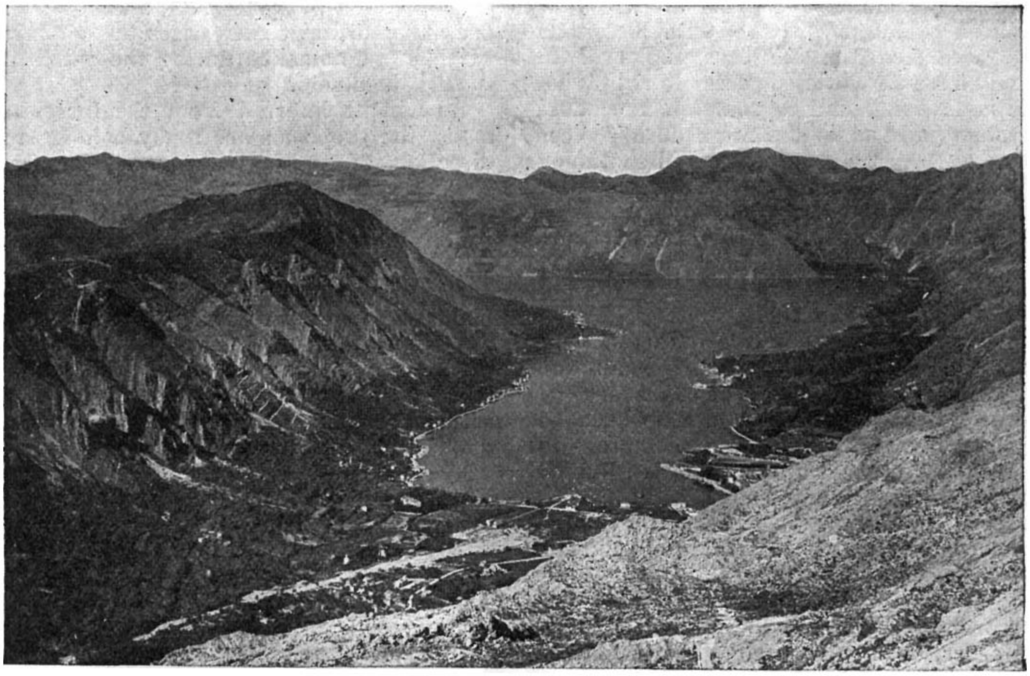

FIG. 2.—Cattaro Bay, the inner Branch of the Cattaro Fiord. The spurs on the fault-block on the left side of the view show triangular facets due to faulting. The precipitous slope above Cattaro, on the right margin of the view, is a fault-scarp. From "The Nature and Origin of Fiords.

But, as he proceeds to point out, the larger features of fiords—the straight channels terminated by a sharp twist, the high angles made by tributary valleys, indicate a close connection with the greater earth movements which have determined the main physical features of the region. A set of diagrams brings out clearly the frequent relation between the fiords, the lakes, the mountain ranges, and the shore lines in different regions, showing that the first and second very frequently follow the course of important faults. This seems indubitable, but we must remember that the work of the latter, though indispensable as a preliminary, has had an indirect, rather than a direct, effect in producing the present scenery. In regard to this a too frequent use of the term "rift valleys" may sometimes mislead: for a rift means a lateral rather than a vertical displacement, and should only be applied, as I pointed out in the *Geological Magazine* for 1905, where the surface is comparatively "raw"; for the "leading lines" in such an example as the Jordan valley can only be discovered by close study of the geology. In such cases the older name, trough-fault valley, seems preferable. Apart, however, from this question of nomenclature, Prof. Gregory supports his view, both against ice-excavation and in favour of earth movements, as the primary cause of fiords, with arguments which will be very difficult to overthrow. But we must conclude, and do this by expressing our hearty thanks to him for this admirable history of fiords and other forms of inlets of the sea. It will be a great boon to students, for it is a veritable encyclopædia, full of important facts, the collection of which must have entailed long and patient labour, because they are scattered about many publications in sundry languages, and often not readily accessible.

T. G. BONNEY.

EDUCATIONAL LEGISLATION IN NEW SOUTH WALES.

THE economic, social, and educational problems which present themselves for solution in the free atmosphere of our more prosperous colonies, unhampered by tradition and conventions, and with their fresher outlook, often present features in the attempt to solve them well worthy the attention and possibly the emulation of those engaged upon similar questions at home.

We are on the eve of great educational changes, if we are to trust the somewhat vague utterances of the Lord Chancellor and of the Minister for

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Education; and amongst them there are few reforms more urgent than the adoption of measures which will secure to the nation the fullest advantage of the best brains of its children.

The measures recently enacted by the legislature of New South Wales, as explained in a paper by Prof. H. S. Carslaw, reprinted from the *University Review* of Sydney, of July 13, 1913, which have for their object the opening of a clear road to the poorest scholar of talent and ability in the State from the elementary school to the university, deserve the closest attention of all who are interested in the highest welfare of the mother country.

The Act is an attempt to bring educational opportunity within reach of all those who, by ability, attainments and character, without distinction of class, can worthily take advantage of it.

It seeks to coordinate effectively the secondary schools, both public and private, with the university, so "that under it the best pupils of the schools will have unrestricted access to the highest available education," and to complete the educational system built up in the State during recent years so as to form "a progressive and continuous whole," from the primary through the secondary and technical schools to the university. In the words of Mr. Carmichael, the Minister of Education, "We want to make the university the final effort in the educational scheme as laid down by the Government; to exclude nobody, but to include everybody who has brains and application.

To this end a scheme of university exhibitions has been arranged allotting one to every five hundred of the population who are between the ages of seventeen and twenty, and exempting the holders from the payment of matriculation, tuition, and degree fees to the university.

There will thus be, on the basis of the present population of New South Wales, about 200 university exhibitions to award in 1914, and taking the average university course as four years, there would accordingly be, when the scheme is in full working order, 800 students enjoying the advantages of the Act in any one year.

But the cardinal feature of the scheme is to be found in the methods of award. All attempts at determining the merits of the candidates solely by an external examination, such as that of matriculation, are abandoned. Instead thereof, a system of leaving certificates is established, for which pupils in the duly registered high schools, whether State or private, which offer at least a four-year course beyond the primary stage approved by a specially constituted board upon which the university is largely represented, are eligible, provided they have passed through the complete four-year course to the satisfaction of the principal alike in respect of attainment, conduct, and personal character.

The pupils are then required to pass an examination in at least four subjects of their school course to the satisfaction of a board of examiners comprised of four officers of the department of public instruction and four professors or teachers of the university nominated by the senate.

The leaving certificate is thus awarded (*a*) upon the result of the four years' work in the high school; (*b*) upon the successful passing of an examination in certain subjects of the school course, and those pupils who take the highest places in the examination list are awarded the university exhibitions.

To meet, however, the cases of persons who have been privately educated or who have pursued their studies in later years and are thereby precluded from obtaining leaving certificates, a number of university exhibitions not exceeding five per cent. are offered annually to such persons who pass certain prescribed examinations. Provision is also made for students in evening tutorial classes.

Merely to exempt pupils from fees would not, however, remove the obstacles in the path of deserving but poor students, and so arrangements are made to meet such cases by bursaries in aid of their maintenance during the whole period of their studentship.

As will be inferred from the foregoing statement, the proposals are really a long step in the direction of making the university free to all competent students, and to meet this the Government is prepared largely to increase the State endowment, so that the university shall not be crippled in its resources or development.

It is part of a policy, in the words of Lord Haldane, to "secure for our national endeavours the help of our best brains," and that is its justification, and the reason why the experiment in New South Wales is deserving of the most serious consideration at the hands of our educational administrators at home.

There are those who doubt "whether the true educational ideal for an industrial community is that of an open road from the elementary school to the university," but if the university embraces, as it should, not only provision for the highest learning in all branches of knowledge, but also, as it should, training in their application, there need be little fear that the offer of "an open road" will not redound to the lasting good of the nation.

J. H. REYNOLDS.

DR. ALBERT GÜNTHER, F.R.S.

ALBERT CHARLES LUDWIG GOTTHILF GÜNTHER, whose death on Feburay 1 we announced with regret last week, was descended from a family which settled in and about Möhringen on the Filder Plateau at the beginning of the fifteenth century, his father, the Estates Bursar of Möhringen, having taken up his residence in Esslingen, where Albert was born on October 3, 1830. After attendance at the Stuttgart Gymnasium, his family destined him for the Lutheran Church, and with that view he was trained at the Theological College of Tübingen, where, as a student connected by descent with the Duke of Wurtemberg, he had free education. But science and medicine had greater attractions for the young naturalist, especially under such a teacher as Johannes

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